

1

```
ubuntu@ubuntu:~$ ls
a1      Desktop  doc      Downloads  mydir_tar.tar  Pictures  Templates
atharva dir1     documents Music      my_docs       Public    Videos
backup  dir2     Documents mydir      my_docs.zip    snap
ubuntu@ubuntu:~$ touch report.pdf
ubuntu@ubuntu:~$ ls
a1      Desktop  doc      Downloads  mydir_tar.tar  Pictures  snap
atharva dir1     documents Music      my_docs       Public    Templates
backup  dir2     Documents mydir      my_docs.zip    report.pdf Videos
ubuntu@ubuntu:~$ cp -r report.pdf /home/ubuntu/documents
ubuntu@ubuntu:~$ cd doc
doc/      documents/
```

2.

The rm command can be used to delete non-empty directories as well but rmdir command is used to delete only empty directories.

3

```
ubuntu@ubuntu:~$ mkdir projects
ubuntu@ubuntu:~$ cd downloads
ubuntu@ubuntu:~/downloads$ touch data.csv
ubuntu@ubuntu:~/downloads$ mv data.csv /home/ubuntu/projects
ubuntu@ubuntu:~/downloads$ cd ~
ubuntu@ubuntu:~$ ls
a1      dir1      Documents mydir      Pictures  snap
atharva dir2      downloads mydir_tar.tar projects  Templates
backup  doc       Downloads my_docs    Public    Videos
Desktop documents Music     my_docs.zip report.pdf
ubuntu@ubuntu:~$ cd projects
ubuntu@ubuntu:~/projects$ ls
data.csv
```

4

```
ubuntu@ubuntu:~/projects$ pwd
/home/ubuntu/projects
```

5

```
ubuntu@ubuntu:~/projects$ touch log1.txt log2.txt log3.txt
ubuntu@ubuntu:~/projects$ ls
data.csv  log1.txt  log2.txt  log3.txt
```

6

```
ubuntu@ubuntu:~$ mkdir old_project
ubuntu@ubuntu:~$ mv old_project new_project
ubuntu@ubuntu:~$ ls
a1      dir1      Documents mydir      new_project  report.pdf
atharva dir2      downloads mydir_tar.tar Pictures     snap
backup  doc       Downloads my_docs    projects     Templates
Desktop documents Music     my_docs.zip Public       Videos
```

7

```
ubuntu@ubuntu:~$ cd doc
ubuntu@ubuntu:~/doc$ touch temp.log
ubuntu@ubuntu:~/doc$ ls
f1.txt  t1.sh  t1.txt  t2.txt  t3.txt  temp.log  text.sh
ubuntu@ubuntu:~/doc$ rm temp.log
ubuntu@ubuntu:~/doc$ ls
f1.txt  t1.sh  t1.txt  t2.txt  t3.txt  text.sh
```

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```
ubuntu@ubuntu:~/doc$ pwd
/home/ubuntu/doc
```

9

```
ubuntu@ubuntu:~/doc$ ls -lh
total 24K
-rw-rw-r-- 1 ubuntu ubuntu 280 Aug 30 12:59 f1.txt
-rw-rw-r-- 1 ubuntu ubuntu 1.1K Aug 30 12:52 t1.sh
-rw-rw-r-- 1 ubuntu ubuntu 13 Aug 30 23:02 t1.txt
-rw-rw-r-- 1 ubuntu ubuntu 6 Mar 14 2024 t2.txt
-rw-rw-r-- 1 ubuntu ubuntu 28 Mar 14 2024 t3.txt
-rw-rw-r-- 1 ubuntu ubuntu 305 Mar 14 2024 text.sh
```

10.output indicates the file type.

11

```
ubuntu@ubuntu:~$ ls -a /etc
.
..
adduser.conf
alsa
alternatives
anacrontab
app.conf
apm
apparmor
apparmor.d
appport
apt
avahi
bash.bashrc
bash_completion
bindresvport.blacklist
binfmt.d
bluetooth
brlapi.key
brltty
brltty.conf
hdparm.conf
host.conf
hostid
hostname
hosts
hosts.allow
hosts.deny
hp
ifplugd
init
init.d
initramfs-tools
inputrc
insserv.conf.d
ipp-usb
iproute2
issue
issue.net
kernel
kerneloops.conf
keyutils
profile
profile.d
protocols
pulse
.pwd.lock
python3
python3.12
rc0.d
rc1.d
rc2.d
rc3.d
rc4.d
rc5.d
rc6.d
rcS.d
request-key.conf
request-key.d
resolv.conf
.resolv.conf.systemd-resolved.bak
rmt
rpc
```

12

```
ubuntu@ubuntu:/etc$ ls -d .*
.pwd.lock  .resolv.conf.systemd-resolved.bak  .updated
```

13

```
ubuntu@ubuntu:~$ mkdir -p /home/ubuntu/workspace/projects/web/frontend
ubuntu@ubuntu:~$ ls
a1      dir1      Documents mydir      new_project report.pdf workspace
atharva dir2      downloads mydir_tar.tar Pictures    snap
backup  doc       Downloads my_docs    projects   Templates
Desktop documents Music     my_docs.zip Public      Videos
ubuntu@ubuntu:~$ cd workspace
ubuntu@ubuntu:~/workspace$ tree
.
└── projects
    └── web
        └── frontend

4 directories, 0 files
```

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```
ubuntu@ubuntu:~$ mkdir -p /home/ubuntu/company/departments/hr company/departments/finance company/departments/tech company/employees/active company/employees/former
ubuntu@ubuntu:~$ cd company/
ubuntu@ubuntu:~/company$ tree
.
├── departments
│   ├── finance
│   ├── hr
│   └── tech
└── employees
    ├── active
    └── former
```

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```
ubuntu@ubuntu:~$ mkdir test_dir
ubuntu@ubuntu:~$ ls
a1      Desktop documents Music     my_docs.zip Public      test_dir
atharva dir1      Documents mydir      new_project report.pdf Videos
backup  dir2      downloads mydir_tar.tar Pictures    snap        workspace
company doc       Downloads my_docs    projects   Templates
ubuntu@ubuntu:~$ rm -r test_dir
ubuntu@ubuntu:~$ ls
a1      Desktop documents Music     my_docs.zip Public      Videos
atharva dir1      Documents mydir      new_project report.pdf workspace
backup  dir2      downloads mydir_tar.tar Pictures    snap
company doc       Downloads my_docs    projects   Templates
```

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```
ubuntu@ubuntu:~$ man find> find_manual.txt
ubuntu@ubuntu:~$ ls
a1      Desktop  documents  find_manual.txt  my_docs  projects  Templates
atharva dir1     Documents  Music            my_docs.zip  Public    Videos
backup  dir2     downloads  mydir            new_project  report.pdf workspace
company doc      Downloads  mydir_tar.tar    Pictures     snap
ubuntu@ubuntu:~$ bash find_manual.txt
find_manual.txt: line 1: syntax error near unexpected token `1'
find_manual.txt: line 1: `FIND(1)                General Commands Manual
FIND(1)'
ubuntu@ubuntu:~$ cat find_manual.txt
FIND(1)                General Commands Manual                FIND(1)

NAME
    find - search for files in a directory hierarchy

SYNOPSIS
    find [-H] [-L] [-P] [-D debugopts] [-Olevel] [starting-point...] [expression]

DESCRIPTION
```

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```
ubuntu@ubuntu:~$ head -n 15 find_manual.txt
FIND(1)                General Commands Manual                FIND(1)

NAME
    find - search for files in a directory hierarchy

SYNOPSIS
    find [-H] [-L] [-P] [-D debugopts] [-Olevel] [starting-point...] [expression]

DESCRIPTION
    This manual page documents the GNU version of find.  GNU find searches the
    directory tree rooted at each given starting-point by evaluating the given
    expression from left to right, according to the rules of precedence (see
    section OPERATORS), until the outcome is known (the left hand side is
    false for and operations, true for or), at which point find moves on to

ubuntu@ubuntu:~$ tail -n 8 find_manual.txt
SEE ALSO
    chmod(1), locate(1), ls(1), updatedb(1), xargs(1), lstat(2), stat(2),
    ctime(3) fnmatch(3), printf(3), strftime(3), locatedb(5), regex(7)

    Full documentation <https://www.gnu.org/software/findutils/find>
    or available locally via: info find

FIND(1)
```

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```
ubuntu@ubuntu:~$ mkdir manuals
ubuntu@ubuntu:~$ cp -r find_manuels.txt /home/ubuntu/manuals
cp: cannot stat 'find_manuels.txt': No such file or directory
ubuntu@ubuntu:~$ cp -r find_manual.txt /home/ubuntu/manuals
ubuntu@ubuntu:~$ cd manuals/
ubuntu@ubuntu:~/manuals$ ls
find_manual.txt
ubuntu@ubuntu:~/manuals$ mv find_manual.txt find_help.txt
ubuntu@ubuntu:~/manuals$ ls
find_help.txt
```

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```
ubuntu@ubuntu:~/manuals$ wc find_help.txt
1719 11916 90928 find_help.txt
ubuntu@ubuntu:~/manuals$
```

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```
ubuntu@ubuntu:~/manuals$ history 15
597  head 15
598  head +n 15 find_manual.txt
599* head -n find_manual.txt
600  tail -n 8 find_manual.txt
601  mkdir manuals
602  cp -r find_manuels.txt /home/ubuntu/manuals
603  cp -r find_manual.txt /home/ubuntu/manuals
604  cd manuals/
605  ls
606  mv find_manual.txt find_help.txt
607  ls
608  cd ~
609  cd manuals/
610  wc find_help.txt
611  history 15
```

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```
ubuntu@ubuntu:~$ tar -cvf tar.gz Documents
Documents/
ubuntu@ubuntu:~$ ls
atharva  dir1      downloads  mydir      Pictures  tar.gz
backup   dir2      Downloads  mydir_tar.tar  projects  Templates
coding   doc       find_manual.txt  my_docs    Public    Videos
company  documents manuals      my_docs.zip  report.pdf workspace
Desktop  Documents Music       new_project  snap
```

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```
ubuntu@ubuntu:~$ zip -r Desktop_zip.zip Desktop
  adding: Desktop/ (stored 0%)
  adding: Desktop/ubuntu-desktop-bootstrap_ubuntu-desktop-bootstrap.desktop (deflated 41%)
ubuntu@ubuntu:~$ ls
atharva  Desktop_zip.zip  Documents      Music          new_project  snap
backup  dir1             downloads      mydir          Pictures     tar.gz
coding  dir2             Downloads      mydir_tar.tar  projects     Templates
company doc              find_manual.txt my_docs        Public       Videos
Desktop documents       manuals        my_docs.zip    report.pdf   workspace

ubuntu@ubuntu:~$ unzip -l Desktop_zip.zip
Archive: Desktop_zip.zip
  Length      Date    Time    Name
-----
         0  2025-08-29 16:38  Desktop/
        460  2025-08-29 16:38  Desktop/ubuntu-desktop-bootstrap_ubuntu-desktop-bootstrap.desktop
-----
        460                      2 files
ubuntu@ubuntu:~$
```

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```
ubuntu@ubuntu:~/doc$ chmod 700 script.sh
ubuntu@ubuntu:~/doc$ ls -a script.sh
script.sh
ubuntu@ubuntu:~/doc$ ls -lh script.sh
-rwx----- 1 ubuntu ubuntu 0 Aug 31 02:55 script.sh
```

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```
ubuntu@ubuntu:~/doc$ sudo chown admin database.txt
ubuntu@ubuntu:~/doc$ ls -lh
total 24K
-rw-rw-r-- 1 admin ubuntu 0 Aug 31 02:57 database.txt
-rw-rw-r-- 1 ubuntu ubuntu 280 Aug 30 12:59 f1.txt
-rwx----- 1 ubuntu ubuntu 0 Aug 31 02:55 script.sh
-rw-rw-r-- 1 ubuntu ubuntu 1.1K Aug 30 12:52 t1.sh
-rw-rw-r-- 1 ubuntu ubuntu 13 Aug 30 23:02 t1.txt
-rw-rw-r-- 1 ubuntu ubuntu 6 Mar 14 2024 t2.txt
-rw-rw-r-- 1 ubuntu ubuntu 28 Mar 14 2024 t3.txt
-rw-rw-r-- 1 ubuntu ubuntu 305 Mar 14 2024 text.sh
```

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```
ubuntu@ubuntu:~$ top
```

```
top - 03:08:55 up 17:16,  1 user,  load average: 0.00, 0.04, 0.02
Tasks: 232 total,   1 running, 231 sleeping,   0 stopped,   0 zombie
%Cpu(s):  0.3 us,  0.5 sy,  0.0 ni, 99.0 id,  0.0 wa,  0.0 hi,  0.2 si,  0.0 st
MiB Mem : 2950.6 total,   77.0 free, 2518.1 used, 1345.8 buff/cache
MiB Swap:   0.0 total,   0.0 free,   0.0 used. 432.5 avail Mem
```

PID	USER	PR	NI	VIRT	RES	SHR	S	%CPU	%MEM	TIME+	COMMAND
2756	ubuntu	20	0	4941964	354532	50656	S	2.3	11.7	17:55.11	gnome-shell
2440	ubuntu	20	0	354368	68212	22356	S	1.7	2.3	11:40.40	Xorg
<b>19782</b>	<b>ubuntu</b>	<b>20</b>	<b>0</b>	<b>23204</b>	<b>5932</b>	<b>3756</b>	<b>R</b>	<b>0.7</b>	<b>0.2</b>	<b>0:00.27</b>	<b>top</b>
2917	ubuntu	20	0	398608	9032	2700	S	0.3	0.3	1:48.30	ibus-daemon
4757	ubuntu	20	0	853284	30996	17788	S	0.3	1.0	2:44.84	gnome-termi+
19780	root	20	0	0	0	0	I	0.3	0.0	0:00.01	kworker/u16+
1	root	20	0	23388	9148	4028	S	0.0	0.3	0:20.07	systemd
2	root	20	0	0	0	0	S	0.0	0.0	0:00.11	kthreadd
3	root	20	0	0	0	0	S	0.0	0.0	0:00.00	pool_workqu+
4	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	kworker/R-r+
5	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	kworker/R-s+
6	root	0	-20	0	0	0	I	0.0	0.0	0:00.08	kworker/R-k+
7	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	kworker/R-s+
8	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	kworker/R-n+

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```
ubuntu@ubuntu:~$ date -u
```

```
Sun Aug 31 03:11:55 AM UTC 2025
```

```
ubuntu@ubuntu:~$ cal
```

```
August 2025
```

Su	Mo	Tu	We	Th	Fr	Sa
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

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```
ubuntu@ubuntu:~$ sudo date -s "2025-01-15 2:30 PM"
```

```
Wed Jan 15 02:30:00 PM UTC 2025
```



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```
ubuntu@ubuntu:~$ uptime
09:47:49 up 6 min,  1 user,  load average: 0.29, 1.09, 0.65
ubuntu@ubuntu:~$ df
Filesystem      1K-blocks    Used Available Use% Mounted on
tmpfs            440924      1900    439024   1% /run
/dev/sr0         6191494 6191494        0 100% /cdrom
/cow             2204608  218560   1986048  10% /
tmpfs            2204608        8   2204600   1% /dev/shm
tmpfs            5120         8     5112   1% /run/lock
tmpfs            2204608  175988   2028620   8% /tmp
tmpfs            440920      164    440756   1% /run/user/1000
ubuntu@ubuntu:~$ du
0      ./codes
0      ./atharva
0      ./dir2
0      ./dir1
1284   ./snap/snapd-desktop-integration/common/.cache/mesa_shader_cache
32     ./snap/snapd-desktop-integration/common/.cache/fontconfig
8      ./snap/snapd-desktop-integration/common/.cache/immodules
4      ./snap/snapd-desktop-integration/common/.cache/gio-modules
1232   ./snap/snapd-desktop-integration/common/.cache/gio-modules
ubuntu@ubuntu:~$ free
              total        used        free      shared  buff/cache   available
Mem:           4409220      1854580      122816       413004       3092792       2554640
Swap:              0              0              0
```

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```
ubuntu@ubuntu:~/atharva$ cd ~
ubuntu@ubuntu:~$ cd atharva
ubuntu@ubuntu:~/atharva$ ln original.txt hard_copy.txt
ubuntu@ubuntu:~/atharva$ ls
hard_copy.txt  original.txt
```

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```
ubuntu@ubuntu:~/atharva$ ln -s source.txt sym_link.txt
ubuntu@ubuntu:~/atharva$ ls
hard_copy.txt  original.txt  source.txt  sym_link.txt
```

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33

36

```
ubuntu@ubuntu:~/old_data$ touch d1.txt d2.txt
ubuntu@ubuntu:~/old_data$ ls
d1.txt  d2.txt
ubuntu@ubuntu:~/old_data$ cd ~
ubuntu@ubuntu:~$ rm -r old_data
ubuntu@ubuntu:~$ ls
atharva  Desktop  dir2    Documents  Music     Public  Templates
code     dir1     dir3    Downloads  Pictures  snap    Videos
```



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```
ubuntu@ubuntu:~$ ls -a /var/log
.          casper.log          fontconfig.log    private
..         cloud-init.log      gdm3             README
alternatives.log cloud-init-output.log gpu-manager.log   speech-dispatcher
apport.log  cups                      hp              sssd
apt         cups-browsed             installer       syslog
auth.log    dist-upgrade            journal        sysstat
boot.log    dmesg                  kern.log       unattended-upgrades
bootstrap.log dpkg.log               lastlog        wtmp
btmpt       faillog                openvpn

ubuntu@ubuntu:~$ ls -lh /var/log
total 2.1M
-rw-r--r--  1 root      root          25K Aug  5 17:38 alternatives.l
og
-rw-r-----  1 root      adm              0 Sep  2 09:55 apport.log
drwxr-xr-x  1 root      root           53 Aug  5 17:38 apt
-rw-r-----  1 syslog    adm          17K Sep  2 19:45 auth.log
-rw-----  1 root      root          15K Sep  2 09:55 boot.log
-rw-r--r--  1 root      root         116K Aug  5 16:48 bootstrap.log
-rw-rw----  1 root      utmp              0 Aug  5 16:48 btmpt
-rw-r--r--  1 root      root          2.1K Sep  2 09:54 casper.log
-rw-r-----  1 syslog    adm          47K Sep  2 09:56 cloud-init.log
```

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```
ubuntu@ubuntu:~$ sudo touch /home/ubuntu/opt/myapp/config/config.txt
ubuntu@ubuntu:~$ cd /home/ubuntu/opt/myapp/config
ubuntu@ubuntu:~/opt/myapp/config$ ls
config.txt
ubuntu@ubuntu:~/opt/myapp/config$
```

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40

```
ubuntu@ubuntu:~$ chmod 755 myprojects
ubuntu@ubuntu:~$ ls -ld myprojects
drwxr-xr-x 2 ubuntu ubuntu 40 Sep  2 20:09 myprojects
ubuntu@ubuntu:~$
```

41

```
ubuntu@ubuntu:~$ tar -cvf backup.tar.gz documents
tar: documents: Cannot stat: No such file or directory
tar: Exiting with failure status due to previous errors
ubuntu@ubuntu:~$ tar -cvf backup.tar.gz Documents
Documents/
Documents/f2.txt
Documents/f1.txt
ubuntu@ubuntu:~$ ls
atharva      Desktop      dir3          linux.cd     Pictures     Videos
backup.tar.gz dir1          dir_tar.tar   Music        Public
code         dir1_tar.tar Documents     myprojects  snap
config.txt   dir2          Downloads     opt          Templates
ubuntu@ubuntu:~$
```

42

```
ubuntu@ubuntu:~/dir1$ chmod 664 shared.txt
ubuntu@ubuntu:~/dir1$ ls -l shared.txt
-rw-rw-r-- 1 ubuntu ubuntu 0 Sep  2 20:17 shared.txt
ubuntu@ubuntu:~/dir1$
```

43

```
ubuntu@ubuntu:~/dir1$ touch video.mp4
ubuntu@ubuntu:~/dir1$ ls -lh video.mp4
-rw-rw---- 1 ubuntu ubuntu 0 Sep  2 20:21 video.mp4
```

44

```
ubuntu@ubuntu:~/dir1$ find /home -type f -mtime -7
find: '/home/admin': Permission denied
find: '/home/installer': Permission denied
/home/ubuntu/backup.tar.gz
/home/ubuntu/opt/myapp/config/config.txt
/home/ubuntu/config.txt
/home/ubuntu/dir_tar.tar
/home/ubuntu/dir1_tar.tar
/home/ubuntu/linux.cd/f2.txt
/home/ubuntu/linux.cd/f1.txt
/home/ubuntu/linux.cd/testperms.txt
/home/ubuntu/.bash_history
/home/ubuntu/dir1/video.mp4
/home/ubuntu/dir1/shared.txt
/home/ubuntu/dir1/a.txt
/home/ubuntu/dir1/b.txt
/home/ubuntu/atharva/source.txt
/home/ubuntu/atharva/hard_copy.txt
/home/ubuntu/atharva/original.txt
/home/ubuntu/.sudo_as_admin_successful
```

45

```
ubuntu@ubuntu:~/dir1$ touch version1.txt version2.txt
ubuntu@ubuntu:~/dir1$ ls
a.txt b.txt shared.txt version1.txt version2.txt video.mp4
ubuntu@ubuntu:~/dir1$ diff version1.txt version2.txt
```

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```
ubuntu@ubuntu:~/photos$ touch a.jpg
ubuntu@ubuntu:~/photos$ ls
a.jpg
ubuntu@ubuntu:~/photos$ rsync photos /home/ubuntu/backup/photos
rsync: [sender] link_stat "/home/ubuntu/photos/photos" failed: No such file or d
irectory (2)
rsync error: some files/attrs were not transferred (see previous errors) (code 2
8) at main.c(1338) [sender=3.2.7]
ubuntu@ubuntu:~/photos$ ls ~/home/ubuntu/backup/photos
```

47

```
ubuntu@ubuntu:~/atharva$ nano original.txt
ubuntu@ubuntu:~/atharva$ cut -c -10-25 original.txt
cut: invalid byte or character range
Try 'cut --help' for more information.
ubuntu@ubuntu:~/atharva$ cut -c 10-25 original.txt
ne my name is At
```

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49

```
ubuntu@ubuntu:~/dir1$ echo "function is the function which is used in function">
script.js
ubuntu@ubuntu:~/dir1$ grep -o "function" script.js | wc -l
3
ubuntu@ubuntu:~/dir1$
```

52

```
ubuntu@ubuntu:~/dir1$ echo "I'm Atharva">a.txt
ubuntu@ubuntu:~/dir1$ echo "I'm Atharva">application.log
ubuntu@ubuntu:~/dir1$ tail -f /home/ubuntu/dir/application.log
tail: cannot open '/home/ubuntu/dir/application.log' for reading: No such file o
r directory
tail: no files remaining
ubuntu@ubuntu:~/dir1$ tail -f /home/ubuntu/dir1/application.log
I'm Atharva
^C
ubuntu@ubuntu:~/dir1$ echo "And im from Ratnagiri">>application.log
ubuntu@ubuntu:~/dir1$ tail -f /home/ubuntu/dir1/application.log
I'm Atharva
And im from Ratnagiri
```

53

```
ubuntu@ubuntu:~$ find / -type f -size +100M
find: '/etc/credstore': Permission denied
find: '/etc/credstore.encrypted': Permission denied
find: '/etc/cups/ssl': Permission denied
find: '/etc/polkit-1/rules.d': Permission denied
find: '/etc/ssl/private': Permission denied
find: '/etc/sss.d': Permission denied
find: '/etc/sudoers.d': Permission denied
find: '/home/admin': Permission denied
find: '/home/installer': Permission denied
find: '/proc/tty/driver': Permission denied
/proc/kcore
find: '/proc/1/task/1/fd': Permission denied
find: '/proc/1/task/1/fdinfo': Permission denied
```

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```
ubuntu@ubuntu:~/dir1$ echo "Hello world">d.txt
ubuntu@ubuntu:~/dir1$ cat d.txt
Hello world
ubuntu@ubuntu:~/dir1$
```

55

56

```
ubuntu@ubuntu:~$ sudo find /home -user john
/home/john
/home/john/.profile
/home/john/.bashrc
/home/john/.bash_logout
```

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58

```
ubuntu@ubuntu:~$ du -h . | sort -rh
22M      .
17M      ./cache
14M      ./cache/tracker3/files
14M      ./cache/tracker3
4.3M     ./snap
2.9M     ./snap/ubuntu-desktop-bootstrap/common/.cache
2.9M     ./snap/ubuntu-desktop-bootstrap/common
2.9M     ./snap/ubuntu-desktop-bootstrap
2.2M     ./cache/mesa_shader_cache_db
1.6M     ./snap/ubuntu-desktop-bootstrap/common/.cache/mesa_shader_cache
1.4M     ./snap/snapd-desktop-integration/common/.cache
1.4M     ./snap/snapd-desktop-integration/common
1.4M     ./snap/snapd-desktop-integration
1.3M     ./snap/ubuntu-desktop-bootstrap/common/.cache/fontconfig
1.3M     ./snap/snapd-desktop-integration/common/.cache/mesa_shader_cache
572K     ./local
564K     ./local/share
548K     ./cache/mesa_shader_cache_db/part0
412K     ./cache/gstreamer-1.0
356K     ./cache/ibus/bus
356K     ./cache/ibus
352K     ./local/share/nautilus/tags
352K     ./local/share/nautilus
```

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```
ubuntu@ubuntu:~/dir2$ ps
  PID TTY          TIME CMD
 8664 pts/0        00:00:00 bash
 8671 pts/0        00:00:00 ps
ubuntu@ubuntu:~/dir2$ kill -9 8864
```

60

```
ubuntu@ubuntu:~$ ls
archive.tar.gz  code          dir1_tar.tar  Documents  myprojects  Public
atharva         config.txt    dir2          Downloads  opt         snap
backup          Desktop      dir3          linux.cd   photos      Templates
backup.tar.gz   dir1         dir_tar.tar   Music      Pictures     Videos
ubuntu@ubuntu:~$ ln -s dir1 dir_soft
ubuntu@ubuntu:~$ ls
archive.tar.gz  config.txt    dir3          linux.cd   Pictures
atharva         Desktop      dir_soft      Music      Public
backup          dir1         dir_tar.tar   myprojects snap
backup.tar.gz   dir1_tar.tar Documents     opt        Templates
code            dir2         Downloads     photos     Videos
```

61.

```
ubuntu@ubuntu:~/dir1$ compgen -c
alert
egrep
fgrep
grep
l
la
ll
ls
if
then
else
elif
fi
case
esac
for
select
while
```

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```
ubuntu@ubuntu:~/dir1$ cat b.txt c.txt d.txt | sort >merge_file.txt
ubuntu@ubuntu:~/dir1$ ls
application.log  c.txt          merge_file.txt  version1.txt
a.txt           d.txt          script.js       version2.txt
b.txt           logfile.log    shared.txt      video.mp4
ubuntu@ubuntu:~/dir1$ cat merge_file.txt
Hello world
Hello world
```

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```
ubuntu@ubuntu:~/dir1$ diff a.txt c.txt
1c1
< I'm Atharva
---
> Hello world
```

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```
ubuntu@ubuntu:~/dir1$ top

top - 22:59:00 up 7:34, 1 user, load average: 0.00, 0.01, 0.00
Tasks: 228 total, 1 running, 227 sleeping, 0 stopped, 0 zombie
%Cpu(s): 0.1 us, 0.1 sy, 0.0 ni, 99.7 id, 0.0 wa, 0.0 hi, 0.1 si, 0.0 st
MiB Mem : 2950.6 total, 157.2 free, 1781.1 used, 1526.9 buff/cache
MiB Swap: 0.0 total, 0.0 free, 0.0 used. 1169.6 avail Mem

  PID USER      PR  NI   VIRT   RES   SHR  S  %CPU  %MEM     TIME+ COMMAND
 2515 ubuntu    20   0 324616  96732 60272 S   0.5   3.2   4:56.50 Xorg
 2784 ubuntu    20   0 4842620 354900 129416 S   0.5  11.7   6:49.38 gnome-s+
   50 root      20   0      0      0      0 S   0.3   0.0   0:12.44 kcompac+
 8423 root      20   0      0      0      0 I   0.3   0.0   0:00.78 kworker+
 8703 ubuntu    20   0  23204   6048   3872 R   0.3   0.2   0:00.15 top
    1 root      20   0  23544  14604  9612 S   0.0   0.5   0:12.32 systemd
    2 root      20   0      0      0      0 S   0.0   0.0   0:00.10 kthreadd
    3 root      20   0      0      0      0 S   0.0   0.0   0:00.00 pool_wo+
    4 root      0 -20      0      0      0 I   0.0   0.0   0:00.00 kworker+
    5 root      0 -20      0      0      0 I   0.0   0.0   0:00.00 kworker+
    6 root      0 -20      0      0      0 I   0.0   0.0   0:00.00 kworker+
```

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```
ubuntu@ubuntu:~/dir1$ find . -type f -size 0
./photos/a.jpg
./opt/myapp/config/config.txt
./config.txt
./linux.cd/testperms.txt
./dir2/a.txt
./dir1/version2.txt
./dir1/version1.txt
./dir1/video.mp4
./dir1/shared.txt
./dir1/b.txt
```

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```

ubuntu@ubuntu:~/dir1$ ls
application.log  b.txt  d.txt      shared.txt  version2.txt
a.txt           c.txt  script.js  version1.txt video.mp4
ubuntu@ubuntu:~/dir1$ ls -lh a.txt
-rw-rw---- 1 ubuntu ubuntu 12 Sep  2 22:11 a.txt
ubuntu@ubuntu:~/dir1$ touch -t 202505041804 a.txt
ubuntu@ubuntu:~/dir1$ ls -lh a.txt
-rw-rw---- 1 ubuntu ubuntu 12 May  4 18:04 a.txt
ubuntu@ubuntu:~/dir1$

```

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```

ubuntu@ubuntu:~/dir1$ ls -lh a.txt
-rw-rw---- 1 ubuntu ubuntu 12 May  4 18:04 a.txt
ubuntu@ubuntu:~/dir1$ chmod 004 a.txt
ubuntu@ubuntu:~/dir1$ ls -lh a.txt
-----r-- 1 ubuntu ubuntu 12 May  4 18:04 a.txt

```

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```

ubuntu@ubuntu:~$ find /home/ubuntu/ -xtype l
/home/ubuntu/snap/firmware-updater/common/.cache/immodules/im-xim.so
/home/ubuntu/snap/firmware-updater/common/.cache/immodules/im-waylandgtk.so
/home/ubuntu/snap/firmware-updater/common/.cache/immodules/im-wayland.so
/home/ubuntu/snap/firmware-updater/common/.cache/immodules/im-viqr.so
/home/ubuntu/snap/firmware-updater/common/.cache/immodules/im-ti-et.so
/home/ubuntu/snap/firmware-updater/common/.cache/immodules/im-ti-er.so
/home/ubuntu/snap/firmware-updater/common/.cache/immodules/im-thai.so
/home/ubuntu/snap/firmware-updater/common/.cache/immodules/im-multipress.so
/home/ubuntu/snap/firmware-updater/common/.cache/immodules/im-ipa.so
/home/ubuntu/snap/firmware-updater/common/.cache/immodules/im-inuktitut.so
/home/ubuntu/snap/firmware-updater/common/.cache/immodules/im-ibus.so
/home/ubuntu/snap/firmware-updater/common/.cache/immodules/im-fcitx.so
/home/ubuntu/snap/firmware-updater/common/.cache/immodules/im-cyrillic-translit.
so
/home/ubuntu/snap/firmware-updater/common/.cache/immodules/im-cedilla.so
/home/ubuntu/snap/firmware-updater/common/.cache/immodules/im-broadway.so
/home/ubuntu/snap/firmware-updater/common/.cache/immodules/im-am-et.so

```

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```

ubuntu@ubuntu:~/dir1$ ls
a.txt b.txt script.js shared.txt version1.txt version2.txt video.mp4
ubuntu@ubuntu:~/dir1$ cp -r a.txt /home/ubuntu/dir2
ubuntu@ubuntu:~/dir1$ ls ~/dir2
a.txt
ubuntu@ubuntu:~/dir1$ ls -l a.txt
-rw-rw---- 1 ubuntu ubuntu 0 Sep  2 19:33 a.txt
ubuntu@ubuntu:~/dir1$

```

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```
ubuntu@ubuntu:~$ cd dir1
ubuntu@ubuntu:~/dir1$ touch logfile.log
ubuntu@ubuntu:~/dir1$ tail -n 50 -f /home/ubuntu/dir1/logfile.log
^C
ubuntu@ubuntu:~/dir1$ nano logfile.log
ubuntu@ubuntu:~/dir1$ tail -n 50 -f /home/ubuntu/dir1/logfile.log
echo "
Looks like there's a problem with your internet connection.

We can't connect to the server at www.mozilla.org.

What can you do about it?

    Try connecting on a different device.
    Check your modem or router.
    Disconnect and reconnect to Wi-Fi."
```